

# PRODUCT MANUAL

LYNX™ SHIELDED ANALOG  
OUTPUT MODULE

**OA1-M-V**





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## LYNX™ SHIELDED ANALOG OUTPUT MODULE

### OA1-M-V

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### OA1-M-V

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## INTRODUCTION

Read, understand, and comply with all following instructions. This guide must be kept available for reference at all times.

### DISCLAIMER




Inasmuch as RJG, Inc. has no control over the use to which others may put this material, it does not guarantee that the same results as those described herein will be obtained. Nor does RJG, Inc. guarantee the effectiveness or safety of any possible or suggested design for articles of manufacture as illustrated herein by any photographs, technical drawings, and the like. Each user of the material or design or both should make his own tests to determine the suitability of the material or any material for the design as well as the suitability of the material, process, and/or design for his own particular use. Statements concerning possible or suggested uses of the material or designs described herein are not to be construed as constituting a license under any RJG, Inc. patent covering such use or as recommendations for use of such material or designs in the infringement of any patent.

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### ALERTS

The following three alert types are used as needed to further clarify or highlight information presented in the manual:

-  **DEFINITION** *A definition or clarification of a term or terms used in the text.*
-  **NOTES** *A note provides additional information about a discussion topic.*
-  **CAUTION** *A caution is used to make the operator aware of conditions that can cause damage to equipment and/or injury to personnel.*



## PRODUCT DESCRIPTION

The Lynx shielded analog output module is a DIN-rail-mounted module that is wired to the molding machine in order to output a 0–10 V DC signal representing molding parameters or as an external machine transfer.

## APPLICATIONS

### PROCESS MONITORING AND CONTROL

The eDART® and CoPilot® systems require various inputs from the injection molding machine in order to accurately calculate significant process values for monitoring and control.

The OA1-M-V supplies an output from the eDART or CoPilot system to the molding machine to control machine transfer.

### OPERATION

The OA1-M-V is often used to provide outputs to the injection molding machine controller collected by the eDART or CoPilot system.

### PLASTIC PRESSURE OUTPUT

The OA1-M-V is used to provide a signal to the injection molding machine to indicate the machine to transfer from pressure to hold (V→P). The shielded output module cable C-OA1-M-3M is wired to the machine input card which accepts the signal; the C-OA1-M-3M is connected to the OA1-M-V, which collects the signal for use from the eDART system. In the eDART software, the module is configured to enable V→P.

### STROKE OUTPUT

The OA1-M-V is used to provide the molding machine with the stroke output collected by the eDART or CoPilot system. The shielded output module cable C-OA1-M-3M is wired to the machine input card which accepts the signal; the C-OA1-M-3M is connected to the OA1-M-V, which collects the signal for use from the eDART or CoPilot system.

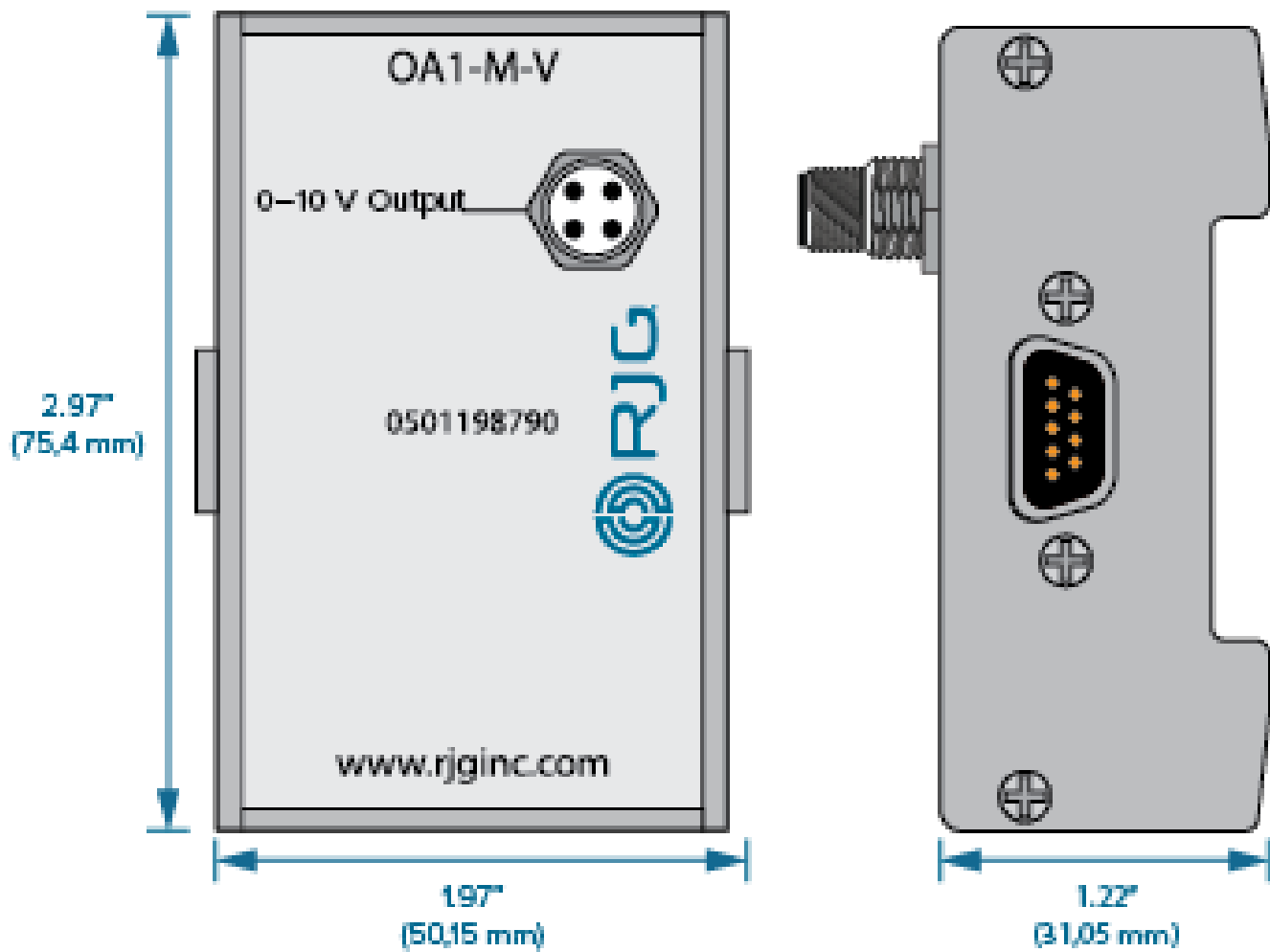
### VELOCITY OUTPUT

The OA1-M-V is used to provide the molding machine with the velocity output collected by the eDART or CoPilot system. The shielded output module cable C-OA1-M-3M is wired to the machine input card which accepts the signal; the C-OA1-M-3M is connected to the OA1-M-V, which collects the signal for use from the eDART or CoPilot system.

### MACHINE CONTROL, FLOW VALVE, AND PRESSURE VALVE OUTPUTS

In some circumstances, the OA1-M-V can be used to provide a machine control, flow valve, or pressure valve output (from eDART software v9.xx only). These instances are often specialized and infrequent; refer to RJG customer support for more information on these uses.

## DIMENSIONS



## CABLE LENGTH

The C-OA1-M-3M is 9.8 ft. (3 m) long.



## INSTALLATION

### INSTALLATION OVERVIEW

The shielded machine interface modules are mounted to a solid surface, such as the machine frame, inside the molding machine on a DIN rail.

#### OA1-M-V

The shielded analog output module cable C-OA1-M-3M is wired directly to the machine (to an input card) on one end, and connected to the OR2-M on the other using the four-pin connector. The shielded analog output module is connected to the ID7-M-SEQ (or DIN/LX-D), or other shielded module using the integrated amphenol connector.

#### eDART OR COPILOT SYSTEM CONNECTION

A Lynx premium cable CE-LX5-W is connected to the Lynx port on the ID7-M-SEQ and a Lynx port on the eDART or CoPilot system to provide it with the machine's sequence signals for process monitoring and control calculations, along with the other installed machine interface module signals.



## INSTALLATION SPECIFICATIONS

The instructions that follow are a general guide; actual steps necessary to install this product will vary based on injection molding machine manufacturer, model, and options.

A clearance height of 6" (152 mm) from the face of the module(s) is recommended for mounting.

### REQUIREMENTS

**CAUTION** *Before beginning OA1-M-V installation, disconnect and lockout/tag-out any and all power to the molding machine. Failure to comply will result in personal injury or death, and damage or destruction of equipment.*

### MOUNTING

Mount the OA1-M-V module to a solid surface—such as the molding machine frame—using the supplied 1.38" (35 mm) DIN rail. A clearance height of 6" (152,4 mm) from the face of the module is recommended.

**NOTES** *Modules and connecting cables must be located away from any static sources, such as feeder tubes and material hoppers.*

## WIRING

The OA1-M-V is interfaced to a machine's input card. The C-OA1-M-3M cable has color-coded wires to simplify installation. Refer to the table at right for the correct wire/signal combinations for installation.

OUTPUT TYPE	SIGNAL	COLOR
0–10 V DC	Positive Signal (+)	● Brown
0 V DC	Negative Signal (-)	● Black
No Connection	N/A	● Blue
No Connection	N/A	● White

## CONNECTIONS

Connect the OA1-M-V module to the shielded sequence module ID7-M-SEQ— or shielded communications module DIN/ LX-D—using the integrated, side-mount amphenol connector. Connect the C-OA1-M-V cable to the OA1-M-V module.

## MAINTENANCE

The shielded analog output module requires little to no maintenance provided that all installation instructions are followed.

### CLEANING

#### REGULAR CLEANING

Cables must be installed in areas free from oil, dirt, grime, and grease.

RJG, Inc. recommends the following cleaners:

Microcare MCC-CCC Contact Cleaner C

Microcare MCC-SPR SuprClean™

Miller-Stephenson MS-730L Contact Re-Nu®

### TESTING

#### OA1-M-V

Test the OA1-M-V outputs after assignment using the Sensor Locations tool in version 9 software, or in Machine Setup utilities in version 10 software. Refer to the CoPilot User Guide for assignment and testing for use with the CoPilot system.

### WARRANTY

#### RJG, INC. STANDARD WARRANTY

RJG, Inc. is confident in the quality and robustness of the shielded analog output module, and so are offering a one-year warranty. RJG's products are guaranteed against defects in material and workmanship for one year from the original date of purchase. The warranty is void if it is determined that the adapter was subjected to abuse or neglect beyond the normal wear and tear of field use, or in the event the adapter box has been opened by the customer.

#### PRODUCT DISCLAIMER

RJG, Inc. is not responsible for the improper installation of this equipment, or any other equipment RJG manufactures.

Proper RJG equipment installation does not interfere with original equipment safety features of the machine. Safety mechanisms on all machines should never be removed.



## CUSTOMER SUPPORT

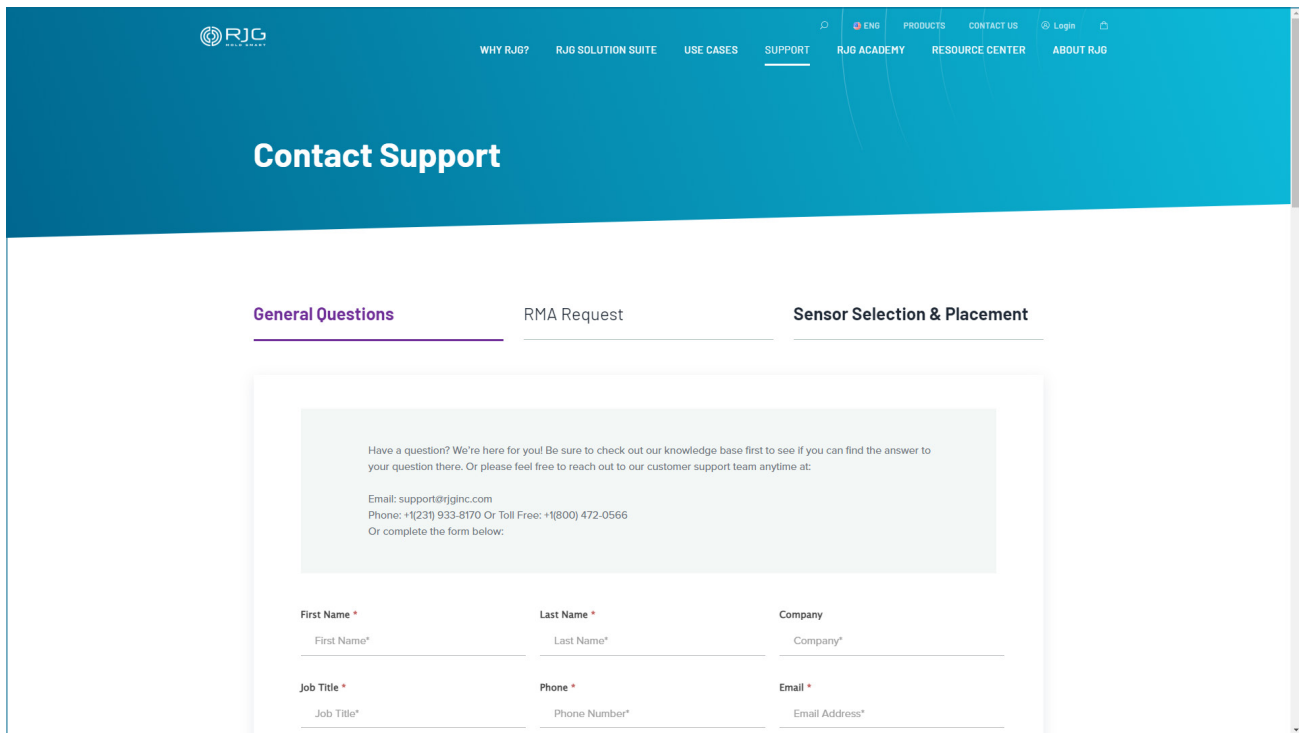
Contact RJG's Customer Support team by phone or email.

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P: 800.472.0566 (Toll Free)

P: +1.231.933.8170

[www.rjginc.com/support](http://www.rjginc.com/support)





## RELATED PRODUCTS

The shielded analog output module is compatible with other RJG, Inc. products for use with the eDART or CoPilot systems.

## COMPATIBLE PRODUCTS

### SHIELDED ANALOG OUTPUT MODULE CABLE C-OA1-M-3M

The shielded analog output module cable C-OA1-M-3M (1 at right) cable features a metal sheathing and shielding suited for the heat and stress found in injection molding environments. Designed specifically for use with RJG, Inc.'s dual-relay output module OA1-M-V and the eDART or CoPilot systems, the C-OA1-M-3M provides a connection from molding machines' output card and the RJG, Inc. C-OA1-M-3M.

### LYNX PREMIUM CABLES CE-LX5-W

The Lynx premium sensor cable (2 at right) is a polypropylene-coated cable suited for the heat and stress found in injection molding environments. The cable is available in lengths 11.8–472.4" (0,3–12 m), and can be ordered with straight or 90° fittings. One CE-LX5-W is required to interface the ID7-M-SEQ with the eDART or CoPilot system.



## SIMILAR PRODUCTS

The following products, similar to the OA1-M-V, are compatible for use with the eDART or CoPilot systems.

### LYNX COMMUNICATIONS ADAPTER DIN/LX-D

The Lynx communications adapter DIN/LX-D (1 at right) is a shielded, DIN-rail-mounted module that interfaces other RJG, Inc. shielded machine interface modules with the eDART or CoPilot system when the ID7-M-SEQ is not used. This module is shielded to ensure high quality data even in rugged molding environments, and designed to be mounted on standard 35 mm DIN rails often found in machine panels.





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